

PUBLIC HEALTH DEPARTMENT,
GUILDHALL, CAMBRIDGE.

March 5th, 1937.

*To the Chairman and Members of the Local Education
Authority.*

MR. CHAIRMAN, LADIES AND GENTLEMEN,

I have the honour to present for your consideration the 29th Annual Report upon the medical inspection of the elementary school children in Cambridge.

The greater part of the report is taken up with a continuance of the records of the inspections carried out by the medical and nursing staff, of the conditions found and the steps taken to secure remedy of the defects discovered.

The methods of inspection which have been in operation since 1908 have been the subject of a good deal of discussion in professional circles during the year, and attention is directed to this in a note written by Dr. Smyth. Dr. Smyth's conclusions on the matter would suggest very strongly that no system of medical supervision of elementary school children which has yet been suggested is an improvement upon the methods laid down by the Medical Department of the Board of Education.

Attention is also invited to the notes on nutrition written by Dr. Smyth. These summarise the main investigations recently made in England, and contain also a reference to an enquiry into the condition as regards diet and family circumstances of 116 Cambridge children classified as of subnormal nutrition.

So far as epidemic disease is concerned, Mumps and German Measles (both usually non-fatal diseases) account for the bulk. Whooping Cough shows a considerable increase, but happily was not attended by any fatality. Only one case of Diphtheria occurred in school during the year, while Scarlet Fever of a mild type shows a considerable decline.

For the first time the report contains a brief report by the Organisers of Physical Education.

In the preparation of this report I wish again to acknowledge the help given not only by Dr. Smyth, but also by Mr. Lambert and Miss Wallis.

I am,

Your obedient Servant,

ANDREW J. LAIRD,
School Medical Officer.

MEMBERS OF THE HYGIENE SUB-COMMITTEE OF THE EDUCATION COMMITTEE.

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Report of the School Medical Officer

FOR THE YEAR 1936.

Population of the Borough (1935)	75,400
Area of the Borough... ..	...	...	10,057 acres
Number of Elementary Schools ...	...	...	23
Number of Departments ...	...	...	35

	1928	1929	1930	1931	1932	1933	1934	1935	1936
Average number of children on registers...	6924	6823	6805	6858	7141	7251	7273	7276	7134
Average number of children in attendance	6266	6065	6170	6256	6446	6566	6581	6595	6419

Staff.—

School Medical Officer...	...	Andw. J. LAIRD, M.D., C.M., D.P.H.
Assistant School Medical Officer		Arthur J. SMYTH, M.B., B.Ch., D.P.H.
Public Dental Officer ...	...	W. Baird GRANDISON, L.D.S., R.C.S.
Assistant Public Dental Officers		C. HARRIS, L.D.S. R. B. PICKLES, L.D.S.
Bacteriologist ... ..	...	W. H. HARVEY, M.D. (Part time)
School Nurses ... ..	...	Miss M. M. W. STEVENS Miss F. A. NICHOLLS Miss T. GIBBONS
Dental Attendants ... ..	...	Miss D. MALLETT Miss E. IMPEY Miss ALLENSBY
Clerk ... ..	...	Miss G. A. M. WALLIS

together with the part-time services of the Chief Clerk in the Public Health Department.

Expenditure.—The expenditure for the year ended March 31st, 1936, was :—

	£	s.	d.
Medical inspection and treatment ...	2782	10	5
Dental inspection and treatment ...	2380	15	10
Open Air School	4451	17	7

The annual cost per child on the school registers for medical and dental inspection and treatment was 14s. 4d. gross. The cost in terms of a penny rate was 3.6d.

GENERAL REVIEW OF THE WORK OF THE SCHOOL MEDICAL SERVICES IN CAMBRIDGE.

Groups of Children Inspected.—No change has been made in the arrangements for inspection, the groups being still those known as "Entrants," "Intermediates," and "Leavers," as well as those selected by Teacher or Doctor for some special reason.

In the *Health of the School Child* for 1935 there is an interesting discussion upon the present system of routine medical inspection, so perhaps it may not be out of place to review the position in Cambridge, and first to consider some of the modifications which have been suggested by various authorities.

It is pointed out that three main groups of opinion exist :—

- (a) That the present system of three routine examinations in the life of the school child is on the whole satisfactory, though a fourth will be necessary when the school leaving age is raised.
- (b) That the present system requires supplementary measures designed to remedy the weakness of a scheme which permits intervals of several years between successive inspections, and
- (c) That the present system has outlived its usefulness and should be substituted by a different form of medical supervision.

At the outset, it may be said that we believe the present system is on the whole satisfactory and provides, in fact, for all the suggestions made by those who believe it no longer serves its purpose satisfactorily.

One School Medical Officer would abolish all routine inspections but that of the entrants. He would substitute a visit by the doctor to each school twice every term for the subsequent routine examinations. At these two examinations each term children brought forward by the Teachers would be examined by the School Medical Officer.

Another School Medical Officer would go even further and abolish all routine examinations, as soon as the gap between Infant Welfare and school had been satisfactorily bridged. Again, the children for examination would be selected largely by the Teachers, and examined only for special defects suspected by them.

These schemes would appear unduly to increase the already considerable responsibility of the school teachers, and to have no advantage over the present system, under which it is possible at any time for the teachers to bring forward children thought to be in need of medical supervision. These children may be brought forward as "Specials," either when the Doctor visits the school, or they may be sent to the Municipal Health Centre on any morning during term.

A third medical officer would retain the inspection of Entrants, and would have a final inspection of Leavers co-ordinated with the Juvenile Employment Department.

This medical officer considers much time is wasted in the routine examination of healthy children.

No emphasis is laid by any of these observers on the value of the opportunity for consultation with the parents, which the routine examination offers, or on the importance of seeing children properly stripped for examination. Many apparently healthy children show early signs of trouble, when thoroughly examined, which it would be impossible to detect unless the child were stripped and had its shoes and stockings removed.

The examination of many healthy children with no defects would appear to be justified by the satisfaction the parent gains from being told its child is healthy, and further, without the examination of fit as well as unfit it would be difficult to form a critical opinion of the general health level of the child community. Moreover, there would be an increasing tendency to concentrate the attention of the School Medical Service on the unhealthy instead of the healthy, a tendency deprecated by Sir George Newman in his last report.

In Cambridge, school Entrants under four years old are examined as a routine, and these children are examined again at five years of age. This examination will become less and less necessary as the examination of three year olds at the Infant Welfare Centres increases. Ultimately no doubt the examination before four years of age will be given up in school, but a further Leavers examination will be adopted when the school leaving age is raised.

In Cambridge, then, the present system would appear to be working well, and most of the suggestions made by the various critics are actually in practice without interfering with the valuable routine inspection at present in force.

The opinion of yet another school medical officer may be quoted in support of this point of view : " During the past year many papers have been read on alterations in the Service and much controversy has taken place thereon, but the duties laid on Authorities under the 1921 Education Act are very comprehensive and, if followed in the spirit as well as in the letter, cover most of the suggested changes."

We can see no justification then for alteration of the scheme of routine medical inspections, except for an additional inspection when the school leaving age is raised.

The numbers examined belonging to the three routine groups are shown below.

Routine Cases :		Boys		Girls.		Total.
Entrants	...	375	...	348	...	723
Intermediates	...	388	...	334	...	722
Leavers	...	424	...	400	...	824
		<hr/>		<hr/>		<hr/>
		1187		1082		2269
		<hr/>		<hr/>		<hr/>

Special Inspections, 4113 ; re-inspections, 1022.

The number at routine inspections represents 35 per cent. of the number of children in average attendance.

The fluctuations in the routine groups from 1929 are shown below :—

	1929	1930	1931	1932	1933	1934	1935	1936
Entrants ...	683	759	602	691	703	676	790	723
Intermediates ...	842	741	733	706	699	661	651	722
Leavers ...	590	470	490	835	788	746	723	824
Totals ...	2115	1970	1825	2232	2190	2083	2164	2269

The following Table shows the number of routine inspections carried out at the various schools :—

	Entrants.		Intermediates		Leavers.	
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
Brunswick Council ...	56	40	50	35	—	—
Central ...	—	—	—	—	74	85
Chesterton Senior ...	—	—	—	—	175	162
Milton Road ...	38	45	43	59	—	—
Morley Memorial ...	36	26	36	33	—	20
Newnham Croft ...	10	4	11	7	—	—
New Street ...	13	8	—	—	—	—
Park Street ...	6	7	10	12	—	—
Richmond Road ...	8	11	3	1	—	—
Romsey Council ...	—	—	17	13	40	18
St. Andrew's ...	—	—	37	23	—	—
St. Barnabas ...	11	6	14	9	—	—
St. George's ...	—	—	—	—	66	69
St. Giles' ...	8	7	—	—	—	—
St. Luke's ...	26	23	46	40	—	—
St. Matthew's... ..	25	14	14	24	—	—
St. Paul's ...	8	14	9	11	—	—
St. Philip's ...	30	23	43	32	48	28
Sedley ...	30	39	23	16	—	—
Shirley ...	51	50	—	—	—	—
St. Andrew's R.C. ...	8	9	12	5	6	7
Cherry Hinton ...	7	13	11	11	15	11
Trumpington ...	4	9	9	3	—	—
	375	348	388	334	424	400
	723		722		824	

Co-operation of Parents.—The percentage of parents present at the routine inspections was 79, being a trifle lower than the previous year, and varied from 41 per cent. to 97 per cent.

REVIEW OF THE FACTS DISCLOSED BY INSPECTION.

The defects noted at both "routine" and "special" inspections will be found in Table IIA, page 21.

The total number of "defects" found at "routine" and "special" inspections to require treatment was 1,725, slightly less than in the previous year, and the number requiring to be kept under observation was 1,269, 322 more than in 1935.

The number of "individual children" found at routine inspection to require treatment shows a decrease from 364 in 1935, to 293 in 1936, and was 12.9 per cent. of the children examined in the three routine groups. This figure is exclusive of uncleanness and dental disease, but includes children found to require treatment on account of their defective nutritional condition.

Among the "entrants" the percentage requiring treatment was 8.1, and among the "intermediates" and "leavers," 15.5 and 14.8 per cent.

The total number of children with no defects was 1071, or 47.2 per cent. of the number examined at routine medical inspection.

Before making any comparison of the percentage of defects in the three age groups, it should be borne in mind that the vision of "entrants" is not tested.

The average height and weight of the children are set out below. The increase in height and weight of both boys and girls is in accordance with the experience of the country as a whole. Continuing as it does year after year, it would seem that the improvement is a real one, and with a continuance of present conditions likely to be maintained.

Boys.

Age in Years.	No. Exam- ed in 1936.	Average Height in Inches.					Average Weight in Pounds.				
		1912	1933	1934	1935	1936	1912	1933	1934	1935	1936
5	230	40.5	42.67	42.55	43.10	43.20	38.2	41.54	41.37	41.57	42.01
8	364	46.4	48.94	48.81	49.79	49.85	47.6	55.88	57.01	56.95	56.59
12	353	54.9	56.80	56.31	56.51	57.18	72.9	80.42	81.84	80.60	81.18

GIRLS.

Age in Years.	No. Exam- ed in 1936.	Average Height in Inches.					Average Weight in Pounds.				
		1912	1933	1934	1935	1936	1912	1933	1934	1935	1936
5	200	40.5	42.15	41.89	42.89	43.07	37.6	40.33	39.53	41.01	40.81
8	318	46.0	48.77	49.24	49.06	49.52	49.7	54.47	54.93	54.69	55.39
12	326	55.3	57.23	57.37	57.76	58.19	71.3	83.97	83.97	84.79	85.75

Nutrition.—One hundred and sixteen children were classed as slightly subnormal, while 2,153 were normal or excellent, and none were classed as “bad.”

Though it has not been possible to carry out anything in the nature of an accurate scientific investigation into the diet of school children in Cambridge, all the cases of subnormal nutrition have been investigated in some detail, and it may be possible to gain a general impression of the influences at work.

Many careful investigations into the question of nutrition have been made under the auspices of various authorities. These, however, entail an immense amount of time and a specialist staff.

In Newcastle-upon-Tyne, for example, to investigate the diets during one week of 69 families, three specially selected Health Visitors under the personal direction and instruction of an experienced dietary investigator were required. In addition, chemical analyses had to be carried out by the City Analyst, the Ministry of Health Food Laboratories and King’s College Hospital, London, and an experienced statistician was also called in. Before considering the position in Cambridge, a brief review of the findings in Newcastle will be of interest and also, perhaps, of a very different type of investigation by Sir John Orr.

On the average, the diet in the 69 families investigated at Newcastle was found to be adequate, but wide variations above and below the average were found. More families among the unemployed than the employed were found to have inadequate diets, and it is probable that on the whole the diets of unemployed were inferior to those of employed, though not markedly so.

The larger families had less adequate diets and spent less on food per head than the smaller ones. Significantly more employed than unemployed consumed cakes, etc. A significant number of women and children were found to be suffering from anaemia, but only 5 per cent. of the men were found to be anaemic.

Rent did not appear to be closely related to the intake of food, and no marked difference was found between the heights and weights of women or children in any of the groups.

Sir John Orr’s investigation was upon entirely different lines. He set out to discover the average consumption of the main foodstuffs at different income levels throughout the country.

He found that the consumption of bread and potatoes was about the same throughout all income levels, but that consumption of the protective foods, *i.e.*, milk, butter, eggs, meat, fresh fruit, greens, etc., rises with income.

Sir John Orr adopted as his standard an optimum diet, not merely an average. According to this optimum, three out of his six income groups fall below the required level of sufficiency, *i.e.*, some 50 per cent. of the population. He estimates that between 20 per cent. and 25 per cent. of the children of the country are in the lowest income group.

Sir John Orr's income groups are as follows :—

Group.	Income per Head per Week.	Estimated Average Expenditure on Food.	Estimated Population of Group.	
			Numbers.	Percentage.
I	Up to 10/-	4/-	4,500,000	10
II	10/—15/-	6/-	9,000,000	20
III	15/—20/-	8/-	9,000,000	20
IV	20/—30/-	10/-	9,000,000	20
V	30/—45/-	12/-	9,000,000	20
VI	Over 45/-	14/-	4,500,000	10
Average	30/-	9/-		

If his deductions are correct it would seem probable that only a small number of elementary school children can usually have an optimum diet or, therefore, attain to their full potential development.

In Cambridge 116 children were classed as of subnormal nutrition during 1936, of these 21 have either left the district or did not attend when sent for further investigation. The family incomes of the remaining 95 cases fall into Sir John Orr's groups as follows :—

Group I, 47 ; Group II, 21 ; Group III, 5 ; and 20 cases preferred not to disclose their incomes ; these were all quite obviously among the better-off families.

Most of the homes of these children were personally visited by an experienced member of the Care Committee, and much valuable information was collected. Though it is not possible to give this in detail, general inference as to the condition of the home may be drawn.

A classification of the homes based on the information obtained has been attempted, and they have been arranged in three groups—good, fair and poor. The arrangement is necessarily dependent on general impression, and is based on the cleanliness, management and poverty observed on the occasion of the visit.

Of 76 houses visited, 30 could be classed as good, 10 fair, 27 poor. 9 houses were visited which could not be investigated for one reason or another.

With regard to food eaten, exact information on the lines of the Newcastle enquiry has not been obtained, but there is no doubt many children refuse green vegetables and meat. There is a common belief among parents that meat is not good for children. Actually the protein requirements for a child are comparatively much higher than those for an adult ; meat and milk are the simplest sources of first class protein for children. Green vegetables are rich in calcium, but something over 60 per cent. of the calcium content is usually thrown away in the water they are boiled in, together with nearly 50 per cent. of the protein contained in the raw vegetable.

Many of the children go too late to bed, and in a certain number illness of various kinds was probably a factor in the production of sub-normal nutrition.

It is interesting to note from the Newcastle report that cakes were definitely more frequently eaten by the more prosperous families. This fact may be associated with the higher incidence of dental decay among children of the better-off parents than among the poorer. There can be little doubt that starchy foods, especially biscuits, are an important factor in the cause of dental decay.

Many children are given a biscuit last thing at night, a practice calculated to destroy the best teeth.

Another interesting fact disclosed by the Newcastle report is the comparative infrequency of anaemia among adult men as compared with its incidence among women and children, this is possibly a consequence of the prevalent idea that the worker needs the meat, the women and children may go short.

It is difficult to draw any definite conclusions as to the cause of subnormal nutrition from the investigation in Cambridge. There is commonly a disinclination to eat meat and greens, and not infrequently insufficient sleep, but these conditions are also found among children who are not classed as subnormal in nutrition, or who may actually appear particularly well nourished.

The fact that 73 out of 95 children fall into Sir John Orr's first three income groups must not be taken as evidence that the main cause of subnormal nutrition is poverty, for there can be no doubt that the majority of elementary school children would be similarly grouped.

One would, however, be justified in concluding that it is difficult for any elementary school child to achieve optimum nutrition, if Sir John Orr's views are accepted, and there can be no doubt that almost every child would benefit by receiving milk in school, certainly every child under seven years of age would be the better for at least two-thirds of a pint.

These statements apply if optimum standards are aimed at rather than average sufficiency. At the same time the state of nutrition of elementary school children in Cambridge is well up to the average.

Sir John Orr summarises his conclusions under six heads. The last three may perhaps be quoted :—

4. "A review of the state of health of the people in the different groups suggests that, as income increases, disease and death rate decrease, children grow more quickly, adult stature is greater and general health and physique improve.
5. "The results of tests on children show that the improvement of the diet in the lower groups is accompanied by improvement in health and increased rate of growth, which approximates to that of children in the higher income groups.

6. "To make the diet of the poorer groups the same as that of the first group whose diet is adequate for full health, *i.e.*, Group 4, would involve increases in the consumption of a number of the more expensive foodstuffs, viz., milk, eggs, butter, fruit, vegetables and meat, varying from 12 to 25 per cent."

In conclusion, a quotation from Professor Cathcart, Regius Professor of Physiology at Glasgow, may be given. He writes: "I am convinced that mere increase in wages or allowances will not solve the question of defective diets. . . . The solution, where immediate action is required, would be the provision of cooked meals, as is done in schools. But this is no permanent solution. . . . Improved education on what can be done in the way of dietary is badly required—education in budgeting, marketing and cooking."

Cleanliness and Clothing.—The high standard of cleanliness reached among the elementary school children of Cambridge has been fully maintained.

The total number of individual children found unclean at school by the School Nurses during the visits they have made specially for this purpose during 1936, was 663, as compared with 689 in 1935.

The proportion found with pediculi in their heads was 2.1 per cent. In 1935 the proportion was 1.4 per cent.

No proceedings were taken under Section 122 of the Children Act, 1908, but proceedings in Court were taken under the School Attendance Bye-laws in 10 cases, and fines from 2/6 to 7/6 were inflicted in 6 of these, 2 were convicted but no penalty imposed, and 2 were dismissed with a caution.

Ringworm.—Only 3 new cases occurred, 2 of the body and 1 of the scalp. Two were treated at Addenbrooke's Hospital. There were no cases at the end of the year.

The new cases discovered each year from 1924 were as follows:—

1924	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36
26	15	11	14	16	2	9	12	5	3	5	2	3

Tonsils and Adenoids.—531 children (23.4 per cent.) had considerably enlarged tonsils. 8 also suffered from adenoids. Of these 86 required treatment as compared with 126 in 1935.

Cripples and Deformities.—The defects found include:—flat foot, 80; after effects of rickets, 2; spinal curvature, 8; round shoulders, 17; bad posture, 45; knock knees, 25; bowed legs, 2; flat chest, 21; over-riding toes, 5; depressed sternum, 9; deformed hands and feet, 3; deformed toes, 16; after effects of infantile paralysis, 2, and other conditions, 12.

Defective Vision.—The number of children found at routine inspection to have defective vision (6/9 or worse) was 170. Of these 73 required treatment, 16 were recorded for observation and the remaining 81 had already received treatment.

In addition to the above 170 children, 56 “specials” were examined, 29 during routine inspection and 27 at the Clinic. All except 7 required treatment.

Squint.—Twenty-two children were noted with squint in the year. 13 of these required treatment, 9 were very slight, five being kept under observation.

External Eye Disease.—The conditions found were Blepharitis 10, Squint 22, and 9 other conditions, making a total of 41. The total number of similar conditions in 1935 was 36.

Ear Disease and Deafness.—The number of children found with defective hearing was 77, or 4.5 per cent. of those inspected. Eighteen had a purulent ear discharge (0.8 per cent.). The percentages for several years are given in comparison.

	1928	1929	1930	1931	1932	1933	1934	1935	1936
Otorrhoea	0.7	0.7	0.6	0.4	0.1	0.6	0.5	0.6	0.8
Deafness	3.4	3.0	1.8	1.9	0.8	2.1	1.7	4.3	4.5

The hearing of all children of 8 years and over, examined at routine medical inspection, has been tested by the Audiometer. The test was repeated in every case in which the hearing was only slightly below normal, or if the child did not seem to grasp what was required of it.

In all, 1,694 children were tested in the following age groups :—

Age	...	...	8.	12.	13.	“Specials.”
Number	...	...	722	679	141	152

Among this number 77 were found to have more than 9 units loss of hearing in one or both ears.

Age.	Defective hearing in		Both
	right ear.	left ear.	ears.
8	14	13	9
12	14	11	6
13	1	2	—
“Specials”	3	3	1

In 1935 the figures for defective hearing discovered by the Audiometer inspection showed a total of 62.

Other Defects.—These include 52 children with irregular action of the heart, 10 stammerers, 30 with indication of nervous instability, and 5 suffering from anaemia.

Vaccination.—The proportion of children found with vaccination marks in 1936 was 28.8 per cent., this being 1.1 per cent. more than the previous year.

INSPECTION CLINIC.

The Clinic is open every weekday, including Saturdays, from 9.30 a.m. until 1 p.m. The Assistant Medical Officer, three School Nurses, and a Clerk are in attendance.

The total number of children inspected at the Clinic during 1936 was 8,095, 22 more than in 1935.

The attendances in 1936 numbered 12,416, an increase of 106 as compared with 1935.

The average daily attendance during 1936 was 50.

Special Examinations for Physical or Mental Defect.—A number of children are examined at the Clinic who come under special groups, either physical or mental. They include the children who are receiving milk in the schools on medical grounds; those whose condition suggests the need for a period at the Open Air School, and those whose mental capacity is in question.

The children specially examined for mental defect in 1936 numbered 41 (24 boys and 17 girls). The number recommended for the Special School was 13 (7 boys and 6 girls).

The number examined for physical defects was 99 (56 boys and 43 girls). Of these 98 were recommended for the Open Air School.

INFECTIOUS DISEASES AMONG ELEMENTARY SCHOOL CHILDREN.

The following table shows the incidence of Infectious Disease among school children :—

	1928	1929	1930	1931	1932	1933	1934	1935	1936
Scarlet Fever ...	127	56	106	52	62	112	126	112	72
Diphtheria ...	79	162	49	23	12	6	2	3	1
Influenza ...	—	1	—	—	—	82	—	—	—
Measles ...	726	316	453	110	634	209	83	1054	138
German Measles	24	4	5	1	2	4	11	60	926
Whooping Cough	46	126	242	82	215	202	180	38	335
Chicken Pox ...	121	195	244	213	250	196	357	224	215
Mumps ...	21	20	9	218	270	15	15	11	1098
Ringworm ...	8	2	6	—	5	3	4	1	3
Scabies ...	—	1	—	—	1	3	—	—	1
Skin Diseases ...	16	7	13	1	12	12	19	30	32
" Pink Eye " ...	—	—	—	—	—	—	347	7	7
Others ...	78	102	74	25	71	84	66	80	43
Totals ...	1246	992	1201	725	1534	928	1210	1620	2871

Diphtheria Immunisation.—One morning in the week is reserved at the School Clinic for Schick testing and Diphtheria immunisation.

As a rule 25—30 children are inoculated, and 20—25 Schick tested in a morning.

	1936.	1935.	1934.
Number inoculated ...	719	827	319
Number " Schicked "	675	578	288

Of those " Schicked " 443 proved negative, *i.e.*, were completely immunised, 232 were positive, *i.e.*, were not protected, of these 212 received a further inoculation, 20 refused further treatment; 154 were tested for a second time, 150 proving negative and 4 still positive.

Eight were tested for the third time, 3 being negative and 5 positive.

Five were tested for the fourth time and 4 proved negative.

School Closure.—Seven departments had an attendance below 60 per cent. during the year on account of illness.

TREATMENT OF DEFECTS.

The total number of children treated for minor ailments was 1,141, being 45 more than in the previous year. In addition treatment was given to 90 for defective vision, 63 for diseases of the throat and nose, and 4,541 for dental disease, making a total of 5,835 cases treated in 1936, as compared with 5,664 in 1935.

1. *Hospital Treatment.*—Four hundred school children received treatment at Addenbrooke's Hospital, the conditions requiring treatment being :—Disease of the ears, 68; eyes, 8; ringworm, 1; tonsils and adenoids, 102; skin disease, 6; minor injuries, 26; flat feet, 46; over-riding toes, 16; knock-knees, 19; various other conditions, 131; making a total of 423 defects in 400 children.

In addition, a number of children have received Light Treatment at the Hospital.

2. *Treatment at the School Clinic.*—The number of children treated at the school clinic was 708, an increase of 211 compared with the preceding year; the number of attendances for treatment shows an increase from 4,714 in 1935 to 5,029 in 1936.

Ninety-four refractions were carried out during 1936. Lenses were prescribed in 13 cases of hypermetropic astigmatism, 7 cases of mixed conditions, 13 cases of hypermetropia, 25 cases of myopia, and 18 cases of myopic astigmatism.

In 19 cases spectacles were found to be of no benefit, and the cases were deferred for periods ranging from 3 to 6 months for further examination.

In 3 cases refraction was performed, but old glasses were retained. Three cases were referred to Addenbrooke's Hospital. Nineteen cases remained under observation at the end of the year.

During the year 46 children received spectacles under the Authority's scheme.

WORK OF THE SCHOOL NURSES.

The total number of visits made to schools in the year was 562, of which 138 were in connection with the routine medical inspections, 213 for the cleanliness survey, and the remainder for various other purposes.

The "home" visits numbered 3,461 in the year; 900 for the purpose of following-up cases of defects found at routine inspections, 2,323 in connection with infectious disease, and 206 visits of enquiry as to the cause of absence of children notified as ill by Head Teachers and School Attendance Officers.

The figures in 1935 were :—Total home visits 2,809, following-up 979, infectious diseases 1,426, absentees 404.

OPEN AIR SCHOOL.

Delicate and Physically Defective Children.—The number on the register of the Open Air School in Milton Road at the beginning of the year was 120. During the year 79 children left and 77 were admitted, the figures for 1935 being 81 left and 84 admitted. Of the 79 children who left the school during the year, 67 returned to their ordinary schools, 4 left the town, and 3 had reached school leaving age. One was transferred to the Special School, one was admitted to a Home for Epileptics, and three left at the wish of the parents.

The following types of case have attended during the year :—

Anaemia...	...	...	...	...	10
Asthma ...	...	...	...	...	2
Bronchitis	...	...	...	...	7
Rheumatism and Rheumatic Heart...					8
Enlarged Glands	...	...	...		12
Contacts of Tuberculosis	...	...			10
Debility from various causes			...		38
Cripples ...	...	...	...	...	7
Nervous Children	...	...	...		7
Various other conditions	...	...			17

LIGHT TREATMENT AT THE OPEN AIR SCHOOL.

This treatment is given three mornings a week, the period of treatment for each case varying from six weeks to four months.

The number treated during the year was 47—21 boys and 26 girls.

The conditions treated included glandular enlargements, 9 ; debility and anaemia, 11 ; bronchial conditions and colds, 6 ; rheumatism, 6 ; skin conditions, 4 ; nervousness, 2 ; contacts of tuberculosis, 4 ; blepharitis 3 ; otorrhoea, 1 ; paraplegia, 1. All the children treated made good progress, and by the end of the year 14 had returned to the ordinary schools.

SPECIAL SCHOOL.

This was formerly known as the Observation Class, but was certified as a special school under Part V of the Education Act, 1921, from September 1st, 1932.

The number in the school at the beginning of 1936 was 30. Seven left and 12 were admitted, leaving 35 children in attendance at the end of 1936. Of the 7 who left, one was admitted to an Institution, one was excluded on account of epilepsy, and five permission given to leave and notified to the Local Control Authority for statutory supervision.

INSTITUTIONAL CARE.

The number of defective children maintained in Institutions by the Education Committee during 1936 was : blind 1, deaf and dumb 5, mentally defective 4, epileptic 1, deaf and partially blind 1.

SUPERVISION BY THE TUBERCULOSIS OFFICER.

The number of children reported upon by the Tuberculosis Officer during the year was 36. Eight were excluded from attending school and 17 were recommended for the Open Air School.

TUBERCULOSIS IN SCHOOL CHILDREN.

The number of children of school age notified to be suffering from tuberculosis each year from 1925 is shown in the following statement :—

NOTIFICATIONS OF NEW CASES RECEIVED AT AGES 5-14 YEARS DURING THE YEARS 1925 TO 1936.

	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.	
	Boys.	Girls.	Boys.	Girls.
1925 ...	15	13	9	5
1926 ...	10	6	6	8
1927 ...	25	13	10	6
1928 ...	9	9	3	1
1929 ...	6	6	3	6
1930 ...	3	1	2	4
1931 ...	2	2	1	2
1932 ...	—	1	2	2
1933 ...	—	—	4	3
1934 ...	—	—	2	—
1935 ...	—	—	4	5
1936 ...	1	—	1	2

VOLUNTARY AGENCIES.

Every year a number of delicate children are sent for a change of air to the seaside by members of the Invalid Children's Aid and Preventive Aid Societies. 38 were sent away during 1936. All had been examined and passed as suitable by the Assistant Medical Officer.

Other voluntary associations which carry on work among school children, and which give most valuable help, include the Care Committee, the Central Aid Society, and the Voluntary Association for Mental Welfare.

The Inspector of the National Society for the Prevention of Cruelty to Children gave assistance in several cases during the year.

An Occupation Centre for low grade mentally defectives established and managed by the Cambridge Voluntary Association for Mental Welfare has been in existence since 1929. The premises used are those of the old "Hope Class" in Paradise Street. Their use has been granted free of charge to the Association by the Education Committee.

It is open in the afternoons every week-day except Saturday from 2 to 4.30 p.m. The number attending at present is seventeen; of whom only three are boys. The number under 16 years of age is eight.

PROVISION OF MILK IN SCHOOL.

The number of children receiving milk in schools has increased from approximately 4,100 in 1935 to approximately 4,400 in 1936.

The milk is distributed during the Easter holidays, the Summer holidays and Christmas holidays from three Centres:—The Municipal Health Centre, Auckland Road, the Romsey Domestic Centre, Coleridge Road, and Milton Road School.

The average daily number of children attending was 305 during the Easter holidays, 208 during the Summer holidays, and 224 during the Christmas holidays.

The assessment of ability to pay for the milk is undertaken by the Central Aid Society, but every child recommended gets milk free of cost pending the making of an assessment. The number getting the milk free on medical grounds for any period during the year was 888.

COD LIVER OIL.

The number of children having cod liver oil and malt in school during 1936 was 1,918, an increase of 254 as compared with the previous year.

TEACHING OF HYGIENE IN SCHOOL.

Health Education.—The school child's education in health is, or should be, a continuation of the training which the Maternity and Child Welfare Committee provide for the infant and toddler stages of life.

In the Infant Schools much attention is paid to the inculcation of habits of cleanliness. Attention is given to cleanliness of the head, face, teeth and clothing, the use of the pocket handkerchief, the practice of mouth breathing, and the proper use of the sanitary conveniences.

These lessons are practised daily in connection with the preparation for the forenoon lunch or milk, the periods allotted to play and rest, while at the same time close touch is kept with parents by means of simple talks given by the teachers and others on such subjects as diet, sleep, clothing, etc.

Among the older children physical education is carried on by means of suitable exercises. These are regarded as an important part of the school curriculum, and abundant facilities exist in Cambridge for all forms of out-door exercises and games.

CHILD GUIDANCE CLINIC, ADDENBROOKE'S HOSPITAL, CAMBRIDGE.

In 1936, 60 children were referred as new cases, an increase of 20 over the previous year. These children came from the following sources :—

Borough School Medical Officer	...	...	25
County School Medical Officer	...	...	8
Family Doctors	...	...	8
Juvenile Court	...	...	3
Social Agencies	...	...	9
Other departments of the Hospital...	...	...	7
			—
			60
			—

Also 25 patients referred in 1935 were still under treatment in 1936.

A session for children suffering from disorders of speech was commenced in 1936. The cause of the speech defect has first been investigated and when the children have proved suitable for re-education in speech they have been given treatment at weekly intervals with exercises to be carried out at home. This session of the Clinic's work is able to handle 15 children for regular treatment. Most of the children have been attending from schools in the Borough.

An average of 50 children from Borough schools have been under regular treatment.

The majority of children have had psychological tests carried out upon them, a school report obtained, and home visits made by the Social Worker before regular treatment has been given to those suitable for the same.

EMPLOYMENT OF SCHOOL CHILDREN.

The number of children examined and found fit under the Bye-Laws regulating the employment of school children was 76. The number examined last year was 67.

There were 14 applications for a medical certificate for public entertainments.

DEATHS OF ELEMENTARY SCHOOL CHILDREN.

The total number of deaths in Cambridge of children 5—14 years of age during 1936 was 7.

The causes of these deaths were :—Accident, 1 ; Otitis Media, 1 ; Broncho-Pneumonia, 1 ; Appendicitis, 1 ; Septicaemia, 1 ; Misadventure, 1 ; Enteritis, 1.

TABLE I.—RETURN OF MEDICAL INSPECTIONS.

A. ROUTINE MEDICAL INSPECTIONS.

Number of Inspections in the prescribed Groups.

Entrants ...	...	...	723
Second Age Group ...	...	...	722
Third Age Group ...	...	...	824
Total			2269
Number of other Routine Inspections	...	...	Nil.

B. OTHER INSPECTIONS.

Number of Special Inspections	...	...	4113
Number of Re-Inspections	...	...	1022
Total			5135

C. CHILDREN FOUND TO REQUIRE TREATMENT.

Number of individual children found at Routine Medical Inspection to require treatment (excluding Uncleanliness and Dental Diseases).

Group. (1)	For defective vision (exclud- ing squint). (2)	For all other conditions re- corded in Table IIA. (3)	Total. (4)
Entrants... ..	3	56	59
Second Age Group ...	32	83	112
Third Age Group ...	38	92	122
Total (Prescribed Groups)	73	231	293

TABLE II.—A. Return of Defects found by Medical Inspection in the year ended December 31st, 1936.

Defect or Disease.					Routine Inspections.		Special Inspections.	
					No. of Defects		No. of Defects	
					Requiring treatment.	Requiring to be kept under observation but not requiring treatment.	Requiring treatment.	Requiring to be kept under observation but not requiring treatment.
Skin	(1) Ringworm : Scalp	...	...	...	—	—	1	—
	(2) Body	...	...	...	—	—	2	—
	(3) Scabies	...	...	...	—	—	2	—
	(4) Impetigo	...	...	...	—	—	141	—
	(5) Other Diseases (Non-Tuberculous)	...	...	...	19	18	177	3
Total (Heads 1 to 5)					19	18	323	3
Eye	(6) Blepharitis	...	...	...	9	—	28	—
	(7) Conjunctivitis	...	...	...	1	1	91	—
	(8) Keratitis	...	...	...	—	—	—	—
	(9) Corneal Opacities	...	...	...	—	—	—	—
	(10) Other Conditions (excluding Defective Vision and Squint)	...	...	...	2	4	66	2
Total (Heads 6 to 10)					12	5	185	2
Ear	(11) Defective Vision (excluding Squint)	...	...	...	73	16	56	7
	(12) Squint	...	...	...	13	5	13	2
	(13) Defective Hearing	...	...	...	37	33	12	5
	(14) Otitis Media	...	...	...	3	14	19	1
	(15) Other Ear Diseases	...	...	...	1	3	14	3
Nose and Throat	(16) Chronic Tonsillitis only	...	...	...	42	484	33	37
	(17) Adenoids only	...	...	...	1	7	4	—
	(18) Chronic Tonsillitis and Adenoids	...	...	...	—	4	6	2
	(19) Other Conditions	...	...	...	5	21	12	4
(20) Enlarged Cervical Glands (Non-Tuberculous)					1	123	12	14

TABLE II.—(continued.)

Defect or Disease.					Routine Inspections.		Special Inspections.		
					No. of Defects		No. of Defects		
					Requiring treatment.	Requiring to be kept under observation but not requiring treatment.	Requiring treatment.	Requiring to be kept under observation but not requiring treatment.	
Enlarged Submaxillary Glands					1	135	2	3	
(21) Defective Speech					2	5	—	3	
Heart and Circulation	{	Heart Disease :							
		(22) Organic			—	1	—	—	
		(23) Functional			1	48	—	6	
Lungs	{	(24) Anaemia			1	3	3	2	
		(25) Bronchitis			—	4	7	—	
		(26) Other Non-Tuberculous Diseases			—	4	5	—	
Tuberculosis	{	Pulmonary :—							
		(27) Definite... ..			—	—	—	—	
		(28) Suspected			—	—	2	—	
		Non-Pulmonary :							
		(29) Glands			—	1	—	—	
		(30) Bones and Joints			—	1	1	—	
		(31) Skin			—	—	—	—	
	{	(32) Other Forms			—	—	—	—	
		Total (Heads 29 to 32)				—	2	1	—
		Nervous System	{	(33) Epilepsy			—	1	—
(34) Chorea				—	—	7	—		
(35) Other Conditions				5	21	—	3		
Deformities	{	(36) Rickets			1	18	—	3	
		(37) Spinal Curvature			5	2	3	—	
		(38) Other Forms			75	109	20	11	
(39) Other Defects and Diseases (excluding Defects of Nutrition, Uncleanliness and Dental Diseases					18	47	670	25	
Total number of defects					316	1133	1409	136	

B. Classification of the Nutrition of Children Inspected during the Year in the Routine Age Groups.

Age-groups.	Number of Children Inspected.	A (Excellent)		B (Normal)		C (Slightly subnormal)		D (Bad)	
		No.	%	No.	%	No.	%	No.	%
Entrants ...	723	41	5.7	651	90.0	31	4.3	—	—
Second Age- group...	722	54	7.5	606	83.9	62	8.6	—	—
Third Age-group	824	69	8.3	732	88.9	23	2.8	—	—
Other Routine Inspections	—	—	—	—	—	—	—	—	—
Total ...	2269	164	7.2	1989	87.7	116	5.1	—	—

TABLE III. Return of all Exceptional Children in the Area.

Blind Children	At Certified Schools for the Blind	—
	At Public Elementary Schools	—
	At other Institutions...	—
	At no School or Institution ...	—
	Total	—
Partially Sighted Children...	At Certified Schools for the Blind	1
	At Certified Schools for the Partially Blind	—
	At Public Elementary Schools	—
	At other Institutions...	—
	At no School or Institution ...	—
	Total	1
Deaf Children	At Certified Schools for the Deaf... ..	2
	At Public Elementary Schools	—
	At other Institutions...	—
	At no School or Institution ...	—
	Total	2
Partially Deaf Children	At Certified Schools for the Deaf	2
	At Certified Schools for the Partially Deaf	—
	At Public Elementary Schools	—
	At other Institutions...	—
	At no School or Institution ...	—
	Total	2
Mentally Defective Children Feeble-minded Children...	At Certified Schools for Mentally Defective Children ...	39
	At Public Elementary Schools	3
	At other Institutions...	—
	At no School or Institution ...	—
	Total	42
Epileptic Children Children Suffering from Severe Epilepsy	At Certified Special Schools	1
	At Public Elementary Schools	—
	At other Institutions...	—
	At no School or Institution ...	1
	Total	2
Physically Defective Children A. Tuberculous Children I.—Children suffering from Pulmonary Tuberculosis ...	At Certified Special Schools	—
	At Public Elementary Schools	—
	At other Institutions...	—
	At no School or Institution ...	—
	Total	—
II.—Children suffering from Non- Pulmonary Tuberculosis	At Certified Special Schools	—
	At Public Elementary Schools	—
	At other Institutions...	—
	At no School or Institution ...	—
	Total	—

TABLE III.—(continued)

B. Delicate Children		At Certified Special Schools	105
		At Public Elementary Schools	18
		At other Institutions... ..	—
		At no School or Institution ...	—
		Total	123
C. Crippled Children		At Certified Special Schools	6
		At Public Elementary Schools	13
		At other Institutions... ..	—
		At no School or Institution ...	—
		Total	19
D. Children with Heart Disease...		At Certified Special Schools	4
		At Public Elementary Schools	—
		At other Institutions... ..	—
		At no School or Institution ...	—
		Total	4
Children suffering from Multiple Defects	Blind and Dumb	At no School or Institution...	1
	Deaf and Partially Blind	At Certified Special Schools...	1
		Total	2

TABLE IV. Return of Defects Treated during the year ended 31st December, 1936.

TREATMENT TABLE.

Group I. Minor Ailments (excluding Uncleanliness, for which see Group VI.)

Disease or Defect.	No. of Defects treated or under treatment during the year.		
	Under the Authority's Scheme.	Otherwise	Total.
Skin—			
Ringworm—Scalp—			
(i.) X-Ray Treatment	1	—	1
(ii.) Other „	—	—	—
Ringworm—Body	1	1	2
Scabies	—	—	—
Impetigo	157	—	157
Other Skin Disease	184	10	194
Minor Eye Defects	166	9	175
(External and other, but excluding cases falling in Group II.)			
Minor Ear Defects	5	9	14
Miscellaneous	515	83	598
(e.g., minor injuries, bruises, sores, chilblains, etc.)			
Total	1029	112	1141

Group II. Defective Vision and Squint (excluding Minor Eye Defects treated as Minor Ailments—Group I.)

Defect or Disease.	No. of Defects dealt with.		
	Under the Authority's Scheme.	Other-wise.	Total.
Errors of Refraction (including squint)	90	—	90
Other Defect or Disease of the Eyes (excluding those recorded in Group I.)	—	—	—
Total ...	90	—	90

Total number of children for whom spectacles were prescribed

(a) Under the Authority's Scheme	...	...	65
(b) Otherwise	...	...	—

Total number of children who obtained or received spectacles

(a) Under the Authority's Scheme	...	...	41
(b) Otherwise	...	...	—

Group III. Treatment of Defects of Nose and Throat.
Number of Defects.

Received Operative Treatment.			Received other forms of Treatment.	Total number treated.
Under the Authority's Scheme, in Clinic or Hospital.	By Private Practitioner or Hospital, apart from the Authority's Scheme.	Total.		
63	—	63	—	63

Group IV, Orthopaedic and Postural Defects.

	Under the Authority's Scheme.			Otherwise.			Total number treated.
	Residential treatment with education.	Residential treatment without education.	Non-residential treatment at an orthopaedic clinic.	Residential treatment with education.	Residential treatment without education.	Non-residential treatment at an orthopaedic clinic.	
Number of children treated	—	—	76	—	—	—	76

Group V. Dental Defects.

(1) Number of Children who were :—

(a) Inspected by the Dentist :

Aged :

Routine Age Groups	3	52	Total	6335
	4	228		
	5	602		
	6	564		
	7	619		
	8	636		
	9	703		
	10	659		
	11	730		
	12	656		
Specials	13	575		
	14	311		

Grand Total ... 176

Grand Total ... 6511

(b) Found to require treatment 4861

(c) Actually treated ... 4541

(2) Half-days devoted to :—

Inspection	...	41	Total 1348
Treatment	...	1281	
Administration (including teaching)	...	26	
	

(3) Attendances made by Children for treatment ... 4917

(4) Fillings :—
Permanent Teeth 7837 } Total 8046
Temporary Teeth 209

(5) Extractions :—
Permanent Teeth 650 } Total 5314
Temporary Teeth 4664

(6) Administrations of general anaesthetics for extractions ... 35

(7) Other operations :—
Permanent Teeth 232 } Total 4380
Temporary Teeth 4148

Group VI. Uncleanliness and Verminous Conditions.

(i)	Average number of visits per school made during the year by the School Nurses	...	...	...	7
(ii)	Total number of Examinations of children in the Schools by School Nurses	...	...	...	19,304
(iii)	Number of individual children found unclean	...	...	...	663
(iv)	Number of children cleansed under arrangements made by the Local Education Authority	...	...	...	Nil
(v)	Number of cases in which legal proceedings were taken :				
	(a) Under the Education Act, 1921	...	...	...	Nil
	(b) Under School Attendance Bye-Laws	...	...	...	10

REPORT ON PHYSICAL EDUCATION IN THE BOROUGH OF CAMBRIDGE FOR THE YEAR ENDED 31ST DECEMBER, 1936.

During the year under review there were many signs of an increasing national interest in those activities appertaining to the physical welfare of the nation, and, in Circular 1445, published by the Board of Education in January, local Education Authorities were urged to promote and develop, on as comprehensive lines as possible, facilities for the physical training not only of children at school, but also of adolescents and adults. It can be fairly claimed that in Cambridge the previous plans and decisions of the local Authority had largely forestalled the main suggestions of the official pamphlet and, at any rate, the framework of a comprehensive scheme was already established.

Reorganisation.

Whereas during 1935 all schools had based their schemes of training on the 1933 Syllabus, in order to establish a simple but sound foundation, by the early part of 1936 it was felt that the reorganisation of Senior and Junior Schools had progressed sufficiently for the development of separate schemes to suit their individual needs and conditions. By the provision of portable gymnastic equipment in some of the Senior Schools and Departments a wider scheme of training has become possible and is now being practised. To senior children in particular the use of gymnastic equipment appeals strongly and, whilst as yet the standard of performance on it leaves much to be desired, and the agility side of the training is on only a simple scale, there has been a definite renewal of interest on the part of the older children and especially of the boys, who sometimes tend to become "blasé" in their attitude towards work which does not really test their powers. Wider experience on apparatus and progressive teaching will gradually produce a better standard and power of performance which will make a greater and more lasting appeal to the children when they leave school and encourage them to continue the training.

The use of apparatus has emphasised the need for suitable footwear and clothing, and in the Senior Schools particularly there has been a marked improvement. Almost without exception the senior children are equipped with shoes and, whilst in girls' schools the wearing of knickers and blouses is becoming more customary, the majority of boys work in shorts and open-necked shirts, although not of uniform pattern. In warmer weather the habit of stripping to the waist is becoming increasingly common among boys without any compulsion, to the evident enjoyment of the boys and the advantage of the teacher, who is thus enabled to appreciate readily the bodily reactions involved in the exercises. The provision of suitable accommodation for changing and storage of clothing still remains a problem for solution in some schools.

In Junior and Infant departments there is considerable variation in standard and even type of work between one department and another. In a few cases the lessons lack apparent purpose beyond that of keeping

the children occupied, whereas by progression from lesson to lesson and from term to term, they should not only cater for the immediate exercise of the children, but should also lay the foundation for the more advanced work in higher classes. The value of the training in the Infant and Junior schools and the need for far-sightedness and a wide outlook on the part of the teachers in them cannot be over-estimated, and is to be observed in the general tone and response of some outstandingly good classes.

Games.

Consequent upon the organisation in 1935 of improved facilities for games training in general, attention was given during the past year to the improvement of games programmes and methods of training in order to increase the training value of the lessons. In the Spring practical games courses were conducted for men and women separately at Chesterton Senior School, and the response of the teachers was very gratifying. The orthodox Summer games were dealt with in the main, and a valuable side of the courses was the pooling of ideas and methods which teachers had found successful in their own experience.

At the same time facilities were provided in the public recreation grounds to enable classes to carry out similar training methods. The keenness of the teachers was reflected in the increased activity of the children and the better standard of play. It was exceptional to see any child inactive for any part of a lesson.

Swimming.

1936 provided a Summer which could scarcely have been worse for the introduction of a revised system of swimming instruction. In accordance with the scheme approved by the Education Committee, priority was given in the formation of classes to the non-swimmers between the ages of 10 and 12 years, coinciding with the last junior and first senior school age-groups. Baths at Coldham's Common, Jesus Green, Coe Fen and Sheep's Green were used, and at each the bath attendant was available for taking a definite part in the instruction along with the class teachers. A progressive scheme of class training had been drawn up and proved effective in ensuring the definite training of all members of classes, when applied with conviction and ability.

The latter was not invariably the case, and experience showed that the average class teacher is as effective in his training of a class of non-swimmers as the swimming instructor with his greater executive skill in swimming and experience of coaching individuals. Nevertheless, the part played by the instructors was definitely advantageous.

During the brief season, shortened by bad weather to only five or six weeks for most classes, an encouraging number of beginners learned to swim, and a marked feature in the early stages was the happy confidence of the children inspired by the class spirit. There is no doubt that if the season had been of the usual duration, the great majority of the children would have become swimmers.

Dancing.

The artistic, postural and cultural value of this natural form of movement is becoming increasingly realised, and no scheme is complete without the inclusion of dancing. Several departments have now given one period a week to this branch of physical education, and much has been done to overcome the difficulty of an accompanist, although in many cases this still offers a serious problem. The teachers attending the preliminary classes of elementary technique have shown much enthusiasm for this particular type of movement.

Recreative "Keep-Fit" Training.

One of the outstanding developments of physical education during the last few years has been that of recreative physical training among adolescents and adults. The organisation of special and separate classes is becoming increasingly common, and it is interesting to recall that two years ago there were in Cambridge only two recreative evening classes, under the control of the responsible Education Authority, and the attendance at these was comparatively insignificant. In January, 1936, steps were taken to give each child on leaving school the opportunity of enrolling in an evening recreative physical training class—on the boy's side at his own school and under his former teacher, whilst for girls a smaller number of centralised classes was formed. The number of enrolments was encouraging and fully justified the provision of the classes. Similar steps were taken in the last Autumn term, and fourteen classes have been formed in the Borough during this winter.

(Signed) H. PAYNE,	}	<i>Organisers of Physical Education.</i>
BERYL A. GRIFFITHS,		

REPORT

ON

DENTAL INSPECTION

AND

TREATMENT OF SCHOOL CHILDREN

FOR THE YEAR 1936

BY

W. BAIRD GRANDISON, L.D.S., R.C.S., Edin.

PUBLIC DENTAL OFFICER

THE DENTAL TREATMENT CENTRE,
AUCKLAND ROAD,
CAMBRIDGE.

December 31st, 1936.

To the Chairman and Members of the Education Committee.

LADIES AND GENTLEMEN,

I have the honour to submit the Twenty-ninth Annual Report on the working of the Dental Institute, covering a period from January 1st, 1936, to December 31st, 1936, inclusive.

May I, on this occasion, invite your particular attention to comments in the report on two aspects of our work. The first in connection with the unfortunate condition of the teeth of our five year old group of children ; the second, to the condition of the teeth of elementary school children leaving school, an original contribution, which I trust will be of considerable interest.

Mr. R. B. Pickles, who had performed very useful work in the Borough, resigned his appointment on December 31st, 1936, and Miss M. E. C. Page, who has had a long experience in the dental inspection and treatment of school children, was appointed to take up duties on January 1st, 1937.

I record my thanks to my assistants and to the dental attendants for their active support and profound interest in the working of our scheme.

I am,

Ladies and Gentlemen,

Your obedient Servant,

W. BAIRD GRANDISON.

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Report on the Dental Inspection and Treatment of Elementary School Children

FOR THE YEAR 1936.

The Twenty-ninth Annual Report on the working of the school dental service of the Borough of Cambridge covers the period from January 1st, 1936, to December 31st, 1936, inclusive. The staff (all whole-time officers) comprises one senior dental officer and two assistant dental officers, together with three dental attendants. The number of sessions allocated to the administration of the school dental service and to the dental inspection and treatment of elementary school children was 1391 sessions. The number of elementary school children concerned was 6705, divided into three groups as follows :—

(1)	Children coming under routine dental inspection	...	...	...	...	(1)	6335
* (2)	Children who were inspected by the dentist and who had minor defects in Temporary Teeth, which in the opinion of the dentists did not require treatment	...	...	...	...	(2)	194
							<hr/> 6529
(3)	Casuals	...	...	...	...	(3)	176
							<hr/>
	Grand Total	...	...	...	...		6705
							<hr/>

*Statistics relating to these children are not detailed in this report.

In the year under review 6335 children were submitted for routine inspection. Of this number 1650 were found to have sound dentitions, 4685 required treatment, and 4365 received complete treatment. In addition 176 children attended without appointments and received treatment, making a total of 6511 children inspected and 4541 treated. The total number of attendances made by 4541 children was 4917.

Number of Sessions devoted to :		Mr. W. B. Grandison.	Mr. C. Harris.	Mr. R. B. Pickles.
(1)	Administration	... 22	2	2
(2)	Inspection	... 8	15	18
(3)	Routine Treatment	... 423	436	422
(4)	Orthodontic Treatment	0	43	0
(5)	Maternity and Child Welfare Dental Work	43	0	0
	Total	... 496	496	442

The hours of work are from 9 a.m. to 12.30 p.m., and from 2 p.m. to 5 p.m., or until the work of each session is completed.

(1) Administration : Sessions devoted to organisation, preparation of reports, attendance at various committee meetings, etc.

(2) Inspection : The dental inspection of routine cases is conducted at the schools. Only children whose teeth are apparently sound to the naked eye are invited to take the chair in order that an accurate inspection by probe and mirror can be carried out and the condition of the teeth properly and accurately recorded. The great majority have defects in the teeth so obvious that further inspection is not considered necessary, no charting is done, but a distinguishing mark is placed on the card, and parents are informed that dental treatment is necessary to one or both dentitions. This method saves time as it is only very rarely we are asked by the parents to state definitely the treatment required before acceptance is forthcoming. When the child comes for treatment and the treatment is completed accurate charting and recording automatically follows. Three dental officers have been engaged together with three dental attendants during 41 sessions in the inspection of 6335 school children, that is, the equivalent of 154 children, approximately, per session.

(3) Routine Dental Treatment : The number of sessions devoted to the dental treatment of elementary school children was 1281. Two dentists are engaged at the central treatment centre, and the third dentist moves from school to school in areas too far distant from the centre. All the schools in the area have been visited during the year 1936 with three exceptions. These are St. Paul's Mixed, St. Philip's Infants and St. Philip's Girls.

(4) Orthodontic Treatment : Mr. C. Harris has again been primarily responsible for the orthodontic treatment of a few school children, and has met with considerable success. Mr. Harris has devoted 43 sessions to this work and has spent much of his spare time to the manufacture of appliances and to demonstrations to his colleagues. The number of children benefiting is small (38), and necessarily so. It cannot be disputed that orthodontic treatment is of the utmost value and should be practised much more frequently than at present, but whether such highly specialised work, involving much labour, time and expense should be incorporated on a large scale in any scheme of school dentistry is problematical. I certainly could not invite my Committee to permit more time for this work, when it is only with the utmost difficulty one can achieve the object desired, namely, "that every school child should have the benefit of at least one annual inspection with treatment when required." Rightly or wrongly, therefore, I must continue to place my faith in a sound system of conservative dentistry, particularly of permanent teeth, and continue to search with the utmost vigilance for a commencing caries, taking steps to eradicate it so that the teeth may be preserved.

(5) Maternity and Child Welfare Dental Work : 43 sessions have been officially spent on work under this heading, but so great has been the demand during the year 1936 that extension of hours was necessary, together with help from my assistants, in order to avoid long waiting lists. The improvement apparent in the demand for dental advice for children of pre-school age is most gratifying, and is due in the main to the establishment of Nursery classes throughout the Borough.

CONDITION OF THE TEETH AT INSPECTION.

6335 elementary school children were inspected during the year 1936. Of this number 820 were new patients, that is, patients who had never been subjected to routine dental inspection before in Cambridge ; 604 children were sound previously, that is, patients who had been previously inspected, but the teeth were such that no treatment was necessary ; the remainder, 4911 children had been inspected and had received treatment in previous years.

The condition of the teeth of 6335 children, divided into their respective age groups, follows :—

Age.	Number of Children Examined	Number of Temporary Teeth			Number of Permanent Teeth		
		Sound	Decayed Saveable	Decayed Un-saveable	Sound	Decayed Saveable	Decayed Un-saveable
3 Years	52	954	60	18	—	—	—
4 „	228	3843	468	169	13	2	—
5 „	602	9168	1663	648	307	107	2
6 „	564	7911	1037	747	1485	456	2
7 „	619	7126	698	896	3762	848	23
8 „	636	5782	300	799	5939	812	46
9 „	703	4758	128	568	8437	834	66
10 „	659	3292	40	411	9739	827	97
11 „	730	2184	17	258	13239	1060	97
12 „	656	943	1	148	13772	1117	148
13 „	575	276	—	41	13530	1003	119
14 „	311	34	—	11	7737	439	40
Total ...	6335	46271	4412	4714	77960	7505	640*

* Includes 45 permanent teeth extracted for irregularity only.

For every 100 elementary school children in Cambridge therefore, there are 730 sound temporary teeth, 69 saveable temporary teeth, 74 unsaveable temporary teeth, 1230 sound permanent teeth, 118 saveable permanent teeth, and 10 unsaveable permanent teeth.

CONDITION OF THE TEETH AFTER TREATMENT.

4685 elementary school children received dental treatment (Routine) during the year 1936, and the effect of treatment can best be appreciated by arranging a comparative table, giving the results of dental inspection, together with the rearrangements which naturally follow as a result of treatment.

	No. of Children Examined.	Temporary Teeth.			Permanent Teeth.		
		Sound.	Decayed Saveable.	Decayed Unsaveable.	Sound.	Decayed Saveable.	Decayed Unsaveable
Condition of teeth at Inspection ...	6335	46271	4412	4714	77960	7505	640
Condition of teeth after Treatment ...	6335	50538	145	255	84703	762	58

The summary of all examinations (Condition of teeth at inspection) presents a collection of figures which the great majority of readers dismiss as a group of statistics, having little or nothing of interest to commend them, but a more careful study of the summary enables one to extract certain details of real significance. Indeed, one can find out a difficulty associated with a scheme of school dentistry, together with the obvious value of a regular and periodical system of dental inspection and treatment. Note, for example, that the percentage of decay present in the temporary teeth of children aged three years is 7.5 per cent., increasing at four years of age to 14.2 per cent., and reaching the maximum, 20.1 per cent., at the age of five years, when the child officially enters our elementary schools. Again, note that the percentage of decay present in the permanent teeth of children aged five years is 26.2 per cent., a percentage which is reduced year by year to the age of fourteen as follows :—Six years 23.6 per cent. ; seven years 18.8 per cent. ; eight years 12.6 per cent. ; nine years 9.6 per cent. ; ten years 8.6 per cent. ; eleven years 7.1 per cent. ; twelve years 7.1 per cent. ; thirteen years 7 per cent. ; and fourteen years 5.8 per cent.

The school child aged five years, the greatest sufferer from dental caries, presents the school dentist then with a problem which, though it remains unsolved, provides the incentive to speculate as to the cause and offer suggestions for an improvement. What is involved in a scheme of school dentistry? The dentist inspects the first age group, namely, the five year old group of children, finds the incidence of decay very high, and by constant vigilance and much surgical interference stems the spread of infection, and reduces the disease to manageable proportions. The

school dentist is, in fact, at all times, attempting with some success to control a disease which one is led to believe is in part at least preventable. Why is this?

Disease of the teeth is common to all civilised communities, and many members of the profession and others have devoted much time to the study of the subject, tabulating the results of their researches, and distributing information which even now is so diverse in character that complete confidence is lacking, and in consequence the cause of dental disease remains unsolved. School dentists therefore cannot offer advice or issue instructions which will prevent dental caries altogether; but although research has not progressed to this extent, I feel sufficient reliable information is available which, if it could be used, would, I think materially assist in reducing the incidence of dental disease. To repeat. The five year old children are the main concern, everyone of whom presents on the average, four decayed teeth, the treatment of which entails considerable time, an unimportant factor from the dentists' viewpoint perhaps, but of great psychological importance to the child, sufficient to render future visits to the dentist a matter of deep concern instead of merely a matter of routine.

The enamel which covers the crowns of all human teeth should be of such a density that penetration is difficult, but dental inspection reveals that this is not so in very many instances. Instead one finds enamel defective in structure, even macroscopical examination revealing pits and fissures, vulnerable spots where caries of the teeth invariably arise.

There is no longer any doubt that the administration of Vitamin D (Cod Liver Oil or the equivalent) during the developmental stage or stage of calcification has an important effect on the enamel of teeth. The enamel is hard, more dense, and of better quality, and much more resistant to attack. It is important to remember that the crowns of temporary teeth, and part of the crowns of four permanent teeth, are calcified at birth, accordingly Vitamin D should be regularly prescribed to expectant and nursing mothers and all children, at least until the stage of calcification of the crowns of the teeth is complete, that is approximately to the age of seven years.

Less is known concerning Vitamin C, but there can be no doubt that the majority of the nation are suffering from a deficiency of this important Vitamin. Fish and Harris write in this connection as follows: "The failure of enamel formation, to which we find Vitamin C deficiency gives rise may be of significance in the causation of human caries." Again Harris writes: "Vitamin C is needed for the functional activity of the dentine and enamel forming cells." Hanke (America) writes: "The addition of a pint of orange juice and the juice of one lemon to the daily diet leads to an almost complete absence of gingivitis, a 50 per cent. reduction in the incidence of dental caries, and a marked increase in the rate of growth." (It is not stated whether the Vitamin C content of these juices is responsible for these remarkable results; but, assuming that it is, then the appropriate daily supply of Vitamin C would be more practicable than the pint of juice.) At this stage, therefore, further enlightenment is desirable before making any definite suggestion.

Milk is highly nutritious and contains minerals which many declare are of infinite value to the developing teeth. Sprawson (London Hospital) has stated : " That a number of children who had a daily ration of one pint of milk presented teeth which showed no evidence of dental disease." In Cambridge the majority of our elementary school children receive one third of a pint of milk daily, but the incidence of decay does not appear to be in any way reduced. If this experiment is accepted, it follows that the supply of milk to school children up to the age of seven years at least should be increased. Finally, the local theory of dental disease is readily accepted, namely, that teeth decay as a result of fermentation resulting from the stagnation of food on and between the teeth. We must not only teach parents that the supply of carbo-hydrates should be limited but, for financial reasons, we should be prepared for little response to our teaching, and insist on the daily cleaning of the teeth under supervision in all our schools. School dentists, and I presume Local Authorities, are being constantly reminded that treatment of defects is not by any means the only course to pursue ; on the contrary, we are asked to use the means at our disposal to prevent disease, and I feel that little real progress will be forthcoming until some practical attempt is made to prove the efficacy of certain presumed preventive measures. The value of a scheme of dental inspection and treatment is too obvious to require further explanation. It is certain, however, that without the work of the school dentist the condition of the teeth of elementary school children in every age group would be indeed deplorable, and it is therefore fortunate we possess the means to control the disease as, up to the present, conservative dentistry furnishes the only reliable protection against an otherwise disastrous condition.

ROUTINE DENTAL WORK.

The nature and quantity of the work necessary to treat satisfactorily 4365 elementary school children was as follows :—

FILLINGS	{	A.	Amalgam or Synthetic	...	...	4128 (4677)
		B.	{	Amalgam (Lined) or	...	3618 (3681)
				Synthetic (Lined)	...	
		C.	{	Amalgam or Synthetic with Pulp Preservation	...	191 (407)
				Amalgam or Synthetic with Root Canal Treatment	...	72 (126)
Total						8009 (8891)
<hr/>						
EXTRACTIONS	{	D.	Teeth treated with Nitrate of Silver (Howe's Method)	...	4307 (3361)	
		E.	{	Temporary Teeth	...	4459 (3544)
				Permanent Teeth...	...	582 (663)
Total operations						17357 (16459)

* Figures in brackets are the corresponding figures for the year 1935.

CASUALS.

In addition to the work recorded above, work was performed on certain children who visited the dental treatment centre without an appointment. 176 children come under this category, and the treatment was as follows :—

					*
FILLINGS	{	A. In Permanent Teeth	...	...	32 (74)
		B. In Temporary Teeth	...	...	5 (10)
EXTRACTIONS	{	C. Of Permanent Teeth	...	...	68 (74)
		D. Of Temporary Teeth	...	...	205 (299)
		E. Teeth treated with Nitrate of Silver (Howe's Method)	...		72 (45)

Anaesthetics, local or general, are always used for the extraction of teeth and regional anaesthesia for filling.

* Figures in brackets are the corresponding figures for the year 1935.

The figures relating to the quantity and nature of the work done are clearly indicated, and comment on these figures appears to be unnecessary. I should like, however, to emphasise once again the great value of our procedure with reference to the treatment of "Casuals." In the year 1935, 343 children came under this category, and in the year 1936 this number was reduced to 176. All interested in the dental welfare of the elementary school children of Cambridge, and they are many, aim at and work for a high acceptance rate, but there are unhappily a few who cannot yet appreciate the value of conservative dentistry, and this number would be much greater if it were not for the fact that when "previous refusals" seek dental aid for a tooth or teeth which has been giving pain, an accurate inspection of the teeth is made and any treatment required must be completed. By this means it can readily be noted that such a patient automatically falls into the category of a Routine case, and on subsequent reinspection a further refusal is not expected, nor is it forthcoming in the majority of cases. On the other hand, a failure to accept complete treatment at this stage necessitates the patient concerned seeking dental advice elsewhere, and further, such cases cannot benefit from our dental inspection and treatment unless complete treatment is eventually accepted, and then only if the condition of the teeth is such as to merit preservation. These methods have been much more successful than I had dared to hope, and it is reasonable to continue to expect a further reduction in the number of "Casuals" treated.

The percentage of children (routine cases) unwilling to receive treatment was 6.8.

Treatment to the permanent teeth has been reduced this year in comparison to that of the year 1935, but treatment to the temporary teeth has been considerably increased, a factor which contributes still more strongly to the unfortunate dental condition of the five year old group of children.

Age.	Number of Children Examined.	No Decay including Both Dentitions.		Remarks.
		Number of Children.	Percentage.	
5 Years ...	602	95	32 approx.	A. Children with no decay present number 1559.
6 „ ...	564	69	12 „	
7 „ ...	619	76	12 „	
8 „ ...	636	107	17 „	B. The percentage 25.7% this year corresponds to 25.4% last year. A further improvement.
9 „ ...	703	183	26 „	
10 „ ...	659	188	29 „	
11 „ ...	730	262	36 „	
12 „ ...	656	229	35 „	
13 „ ...	575	216	37 „	
14 „ ...	311	134	43 „	
Total ...	6055	1559	25.7 „	

* Ages 3 and 4 are omitted.

Age.	Number of Children with Permanent Teeth.	Number of Children whose Permanent Teeth were						Unsaveable but Untreated.
		Sound.		Made Artificially Sound.		Saveable but Untreated.		
			%		%		%	
5 Years...	118	64	54	48	40	6	5	—
6 „ ...	398	179	45	199	50	19	5	1
7 „ ...	588	208	35	351	59	28	6	1
8 „ ...	630	263	42	314	50	52	8	2
9 „ ...	703	305	43	342	49	54	8	2
10 „ ...	659	303	46	316	48	40	6	8
11 „ ...	730	348	48	347	48	35	4	5
12 „ ...	656	281	43	337	51	37	6	12
13 „ ...	575	247	43	303	54	25	3	5
14 „ ...	311	150	50	159	50	2	—	—
Total ...	5368	2348	44	2716	51	298	5	36

* Ages 3 and 4 are omitted.

The unsaveable permanent teeth which numbered 640 in the mouths of 6335 children at inspection were distributed thus :—

335 children had	1 unsaveable tooth each.
96 " "	2 " teeth "
18 " "	3 " " "
11 " "	4 " " "
3 " "	5 " " "

Total 463 children had 640 unsaveable permanent teeth.

It should be noted that all sound or saveable permanent teeth removed for orthodontic purposes are charted as unsaveable, and are included in the above table.

COMPARATIVE TABLE.

A

Percentage of Children with no decay present.

1934.	1935.	1936.
16.8%	25.4%	25.7%

B

Percentage of Children with sound permanent teeth.

1934.	1935.	1936.
26%	39%	44%

Number of Permanent Teeth unsaveable per 100 children.

1934.	1935.	1936.
17	12	10

The above figures are placed in tabular form to afford those interested the opportunity to follow progress and permit of comparison. The most noteworthy, and by no means the least important item, is under heading B where it will be noted the percentage of children with sound permanent teeth has increased from 26 per cent. in the year 1934 to 44 per cent. in the year 1936. The word sound should not be misunderstood. It does not mean, for example, that the teeth of 44 per cent. of our school children are sound naturally, indeed the majority of the children have teeth which have been preserved by conservative methods and it is to the excellence of the practical work done that this great increase of children with sound teeth is entirely due. The object of a scheme of dental inspection and treatment for elementary school children is so to inspect the teeth that, as far as is possible, no cavity however small, should be missed, and that no time should be lost before the defect thus

found is remedied. Again, it is essential that the scheme should be such that periodical and regular inspection, with treatment when necessary, should be available to elementary school children at intervals which do not exceed one year. The success or otherwise of any scheme associated with school dentistry is dependent entirely on that fact, as, the longer the interval between inspections the greater the extent of the disease and the more difficult or hopeless the cure. In Cambridge, fortunately, we have almost achieved that object, indeed but for the illness of the assistant dental officer every school child would most certainly have been inspected, and if necessary, treated during the year 1936. It necessarily follows, therefore, that, provided the conservative work involved is well and truly done the condition of the teeth of the children must show improvement from year to year. This fact is borne out by the statistics referred to and, in addition, the scheme of dental inspection and treatment in Cambridge has been administered sufficiently long to introduce further statistics (the first of the kind I imagine) which will afford proof of the value of a sound system of school dentistry and which will indicate that the condition of the teeth of children leaving school merits attention, so much so, that it can be stated without fear of contradiction that in Cambridge the time is appropriate for the introduction of some scheme for the dental inspection and treatment of the adolescents so that the great amount of work and expenditure already incurred should not be entirely wasted. The statistics which follow give an accurate and intricate survey of the Condition of all the teeth of 206 children who have left, or who will leave school now. It should be noted that the children concerned are not specially selected but represent simply the last 206 children to be seen in this category.

Statistics relating to the teeth of 206 elementary school children who have received their last school dental inspection with treatment when necessary. The number of teeth involved, all permanent teeth, is 5,768.



















[With the knowledge that it may be difficult for many to follow the figures below, permit me to assist by offering an explanation. The first line of figures give details of the 1st Permanent Left Lower Molars of which there are 206 in the mouths of 206 children. Of these 21 were sound at the last inspection, 39 had been extracted, 2 had been painted with Nitrate of Silver, and so can be regarded as doubtful teeth, 1 had the crown almost completely filled.

80 were filled in a fashion similar to that shown in diagram A

26	"	"	"	"	"	B
26	"	"	"	"	"	C
2	"	"	"	"	"	D
8	"	"	"	"	"	E
1	was	"	"	"	"	F

It should be possible to follow the remaining figures from the above example.]

Lower Molars.	Sound.	Extracted.	Silver Nitrate.	Complete Restorations.	Type of Fillings						Percentage Sound.		
					A	B	C	D	E	F			
Left Lower 1st	...	21	39	2	1	80	26	26	2	8	1	...	10.1%
Right Lower 1st	...	20	48	1	10	77	21	12	12	4	1	...	9.7%
Left Lower 2nd	...	67	1	—	2	114	8	11	2	1	—	...	32.5%
Right Lower 2nd	...	59	2	—	8	107	13	9	5	3	—	...	28.6%

Upper Molars	Sound.		Extracted.		Silver Nitrate.		Complete Restorations.		Type of Fillings						Percentage Sound.
	...	28	24	3	—	—	—	A	B	C	D	E	F		
Left Upper 1st	...	28	24	3	—	—	—							...	13.5%
Right Upper 1st	...	25	26	1	—	—	—						—	...	12.1%
Left Upper 2nd	...	95	1	1	—	—	—					—	—	...	46.1%
Right Upper 2nd	...	94	—	1	—	—	—				—	—	—	...	45.6%

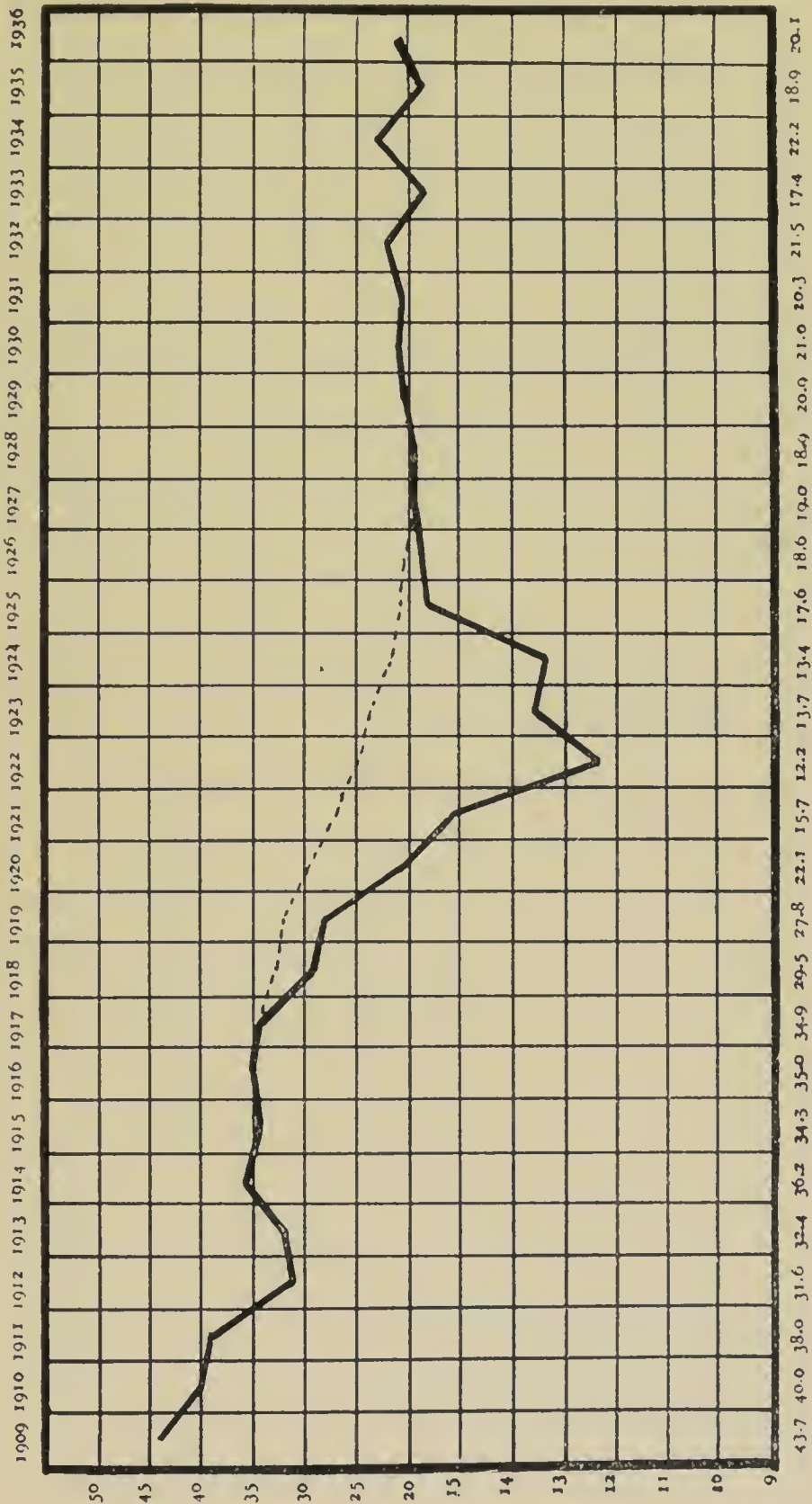
Premolars.	Sound.	Extracted.	Not Erupted.	Type of Fillings				Percentage Sound.
				A	B	C	D	
Left Upper 1st	156	2	—					75.7%
Left Lower 1st	199	1	2					96.6%
Right Upper 1st	156	1	1					75.7%
Right Lower 1st	201	1	—					97.5%
Left Upper 2nd	142	16	—					68.9%
Left Lower 2nd	177	11	4					85.9%
Right Upper 2nd	159	12	1					77.1%
Right Lower 2nd	174	9	3					84.4%
Lower Canines.	412. All sound	...	...					100%
Upper Canines.	Not erupted 1, Filled 2, Extracted 4, Sound 405	...	...					98.3%
Lower Laterals.	Not erupted 2, Filled 3	...	...					98.7%
Upper Laterals.	No erupted 7, Filled 46, Broken 2, Sound 357	...	...					86.6%
Lower Centrals.	— Filled 6, — Sound 406	...	...					98.5%
Upper Centrals.	— Filled 62, Extracted 5, Sound 345	...	...					83.5%

From these statistics it will be seen that the first permanent molars are short lived, and the upper and lower canines, the lower first premolars and the lower incisors are comparatively immune to dental caries.

There are a very large number of individuals deeply interested in the teeth of elementary school children, and the great majority of those must be ignorant of the actual condition of the teeth of children when they leave school. I trust, therefore, that the figures given will be of some value, especially to those who are able to formulate an opinion thereon, and, if sufficiently impressed, to use their influence in the all important problem of finding means whereby these children can continue to retain the teeth in a healthy condition after they have left school. Permit me to repeat that in Cambridge we are now ready to establish a scheme for the dental inspection and treatment of the adolescent and, in this connection, I wish to still further generalise on the figures given. It will be noted that this survey covers 5768 permanent teeth in the mouths of 206 children. of this number of children 181 or 87.8 per cent. would be passed over to any dentist with the full and confident knowledge that the dentist could retain, without difficulty, the teeth of those children for a time greatly in excess of this important adolescent period. Of the remainder, 9 have teeth which should receive further attention, but more frequent inspections would be essential to ensure retention of teeth, and the remaining 16 should not, I am afraid, be included in any further scheme of conservative dentistry as the teeth of those children are poor, they have been heavily filled, and further breakdown could only result in loss of teeth. Again of the 5768 permanent teeth 1438 have been filled, that is an average of 7 teeth for each child, and the number of fillings in 1438 teeth was 1866, an average of 9 fillings for each child. The number of permanent teeth lost (and many were extracted for orthodontic purposes) was only 203, that is approximately 3 per cent., or less than 1 tooth for each child.

These figures can be taken as thoroughly representative of not less than 95 per cent. of those children who are about to leave school in Cambridge, and although I am hopeful of still further improvements, they are sufficiently satisfactory to enable one to approach the problem of an adolescent dental scheme with the belief that such a scheme, if established, would not fail but would, on the contrary, prove of inestimable value and would be, in short, the only logical conclusion to solving the problem of the retention of permanent teeth in a healthy condition for many years.

Diagram.—Showing the percentage of decay in the temporary teeth of the five year old group of children from 1909 to 1936 (inclusive).



The Dotted Line gives the assumed course dealing with dental disease in the 5 year old group of children in the absence of a War Period.

The graph which indicates the percentage of decay present in the five year old group of children has never failed to stimulate interest and attract attention. There is little to add, however, to my comments in this connection expressed in previous pages in this report where I have tried to point out the defect in our system which appears to render the five year old child specially susceptible to dental caries. I would state that the percentage of decay present is a minimum percentage, and should be considerably higher because it will be noticed that 194 children had defects which, in the opinion of the dentists, did not require treatment and for which statistics are not available. The majority of those children were five years of age.

The point to emphasise is that though we carry out a system of conservative dentistry with much success we are dealing with a disease which is established and attempting to effect a cure. We have not introduced methods of a preventive character, and I am anxious that some attempt should be made in this direction. In this connection my suggestions should, in the main, be dealt with by the Maternity and Child Welfare Committee, but the Education Committee too is involved, more especially for children whose ages do not exceed seven years.

GROUP IV.—DENTAL DEFECTS.

(1) Number of children who were:—

(a) Inspected by the Dentists:

Routine Age Groups	Aged.			}	6335
	3	...	52		
	4	...	228		
	5	...	602		
	6	...	564		
	7	...	619		
	8	...	636		
	9	...	703		
	10	...	659		
	11	...	730		
	12	...	656		
	13	...	575		
	14	...	311		
	Specials		176
Grand Total				...	6511

(b)	Found to require treatment	...	...	...	4861
(c)	Actually treated	...	...	...	4541
(d)	Re-treated during the year	...	...	...	3584

(2) Half-days devoted to:

Inspection	41	}	1348
Treatment	...	...	...	1281
Administration	...	...	...	26

(3)	Attendances made by children for treatment	...	4917	
(4)	Fillings :			
	Permanent teeth	... ..	7837	} 8046
	Temporary teeth	... ..	209	
(5)	Extractions :			
	Permanent teeth	... ..	650	} 5314
	Temporary teeth	... ..	4664	
(6)	Administrations of general anaesthetics for extractions...	... ..	...	35
(7)	Other operations. (Ag No ₃ +F. Howe's Method) :			
	Permanent teeth	... ..	232	} 4380
	Temporary teeth	... ..	4148	

OTHER OPERATIONS.

Orthodontic cases	... ..	38
Jaw injuries	... ..	<i>Nil</i>
Crowns or inlays	... ..	5
Dentures	... ..	<i>Nil</i>
Gas cases	... ..	35

Cleaning of the teeth by Dental Attendants. Temporarily abandoned.

